

6-1956

## EC56-1323 The Eggs You Buy

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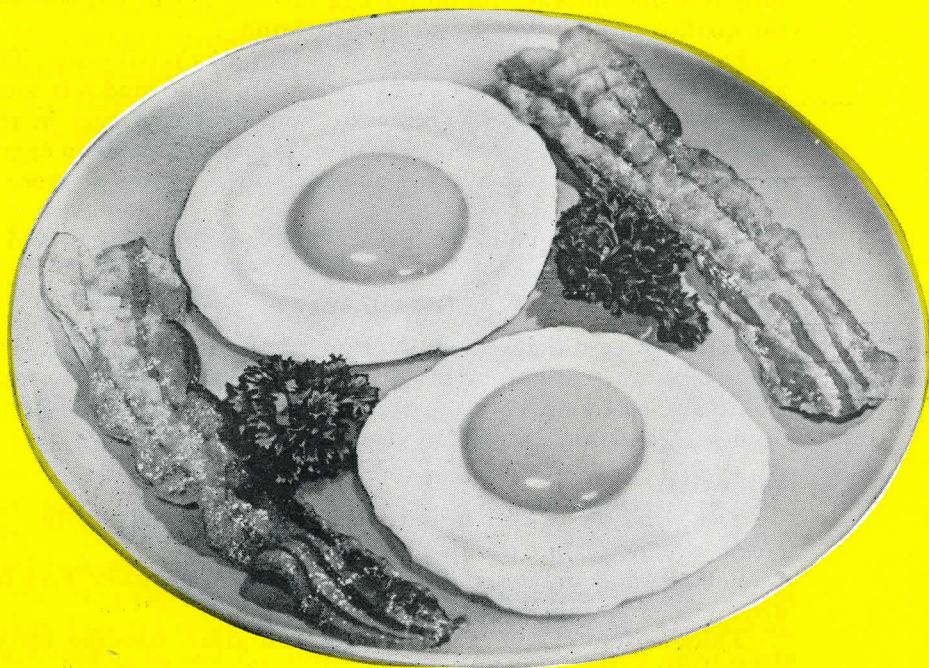
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# **THE EGGS YOU BUY...**

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# The Eggs You Buy

ELVIN C. SCHULTZ

**E**ggs are valuable human food because they are rich in protein, vitamins and minerals. Like other important protein foods, eggs should be properly handled to protect their quality.

The Nebraska Egg Improvement Law is designed to help protect the quality of eggs. The law not only eliminates poor eggs from the market, but it also provides a grading system which helps you to know the quality and size of each dozen eggs you buy. This is important, because even good eggs vary in quality and size.

The quality of an egg is determined by the condition of the shell and its contents. These factors together with size make up the grade.

Labeling eggs as to quality and size is required under the Nebraska marketing laws. When you go to your grocer to purchase eggs, carefully read the information on the egg cartons. It will tell you about the quality and the size of eggs in that carton.

Eggs of three qualities are offered in Nebraska retail stores. These are grade AA, grade A, and grade B. Each of these grades is usually available in various sizes. The most popular sizes of eggs in retail outlets are large eggs (24 ounces or more per dozen), medium eggs (21 ounces or more per dozen), and small eggs (18 ounces or more per dozen).

Do not confuse quality with size. These are two separate and distinct factors.

## EGG QUALITY

You will see differences in the eggs when you break them. These differences are reflected in the grade. The following grade requirements are based on "State grades" which are patterned after the "Federal Standards" (see USDA chart on pages 4 and 5).

### AA QUALITY

The term AA is used to indicate an egg of highest quality. The factors that determine this quality are:

**Yolk:** Round and upstanding, well centered in the white. Free from defects, such as light or dark spots.

**Thick White:** Large amount, firm and clear, standing up well around the yolk.

**Thin White:** Small amount around the thick white. Must be clear.

**Shell Condition:** Unbroken and normal in shape and texture. Free from cracks, loose dirt, and heavy stains.



## A QUALITY

The term A is used to indicate an egg of high quality. The factors that determine this quality are:

**Yolk:** Round and upstanding. Practically free from defects. Fairly well centered in the thick white.

**Thick White:** Large amount, firm and clear. Not standing as high around the yolk as AA quality.

**Thin White:** Small amount surrounding the thick white. Clear.

**Shell Condition:** Unbroken and practically normal in shape, free from rough areas and thin spots. Slight ridges and rough areas that do not materially affect the shape, texture, and strength of the shell are permitted. It must be clear and practically free from stains.

## B QUALITY

The term B is used to indicate an egg of lower quality. The points used to indicate this quality are:

**Yolk:** May appear slightly enlarged and flattened. May show definite but not serious defects.

**Thick White:** A medium amount and flattened. Clear, but lacking in thickness or viscosity.

**Thin White:** Medium to large amount. Clear.

**Shell Condition:** Unbroken. May be slightly abnormal. No adhering dirt. May show slight stains if they do not appreciably detract from the appearance of the egg.

## GOOD NUTRITION

Eggs are important human food because of their nutritive value and their adaptability in combining with other foods.

The egg is a good source of protein. This protein is called efficient because it can be readily utilized by the body.

The white averages about 11 per cent protein. The remainder of the white is chiefly water. The yolk contains about 17 per cent protein and about 33 per cent fat or fatty substances.

The iron content of the yolk is high compared with that of most other foods. This iron is present in a form available to the body. Although the quantity of iron in the white is low, the whole egg ranks as an excellent source of this important element. Eggs are also a source of calcium and are rich in phosphorus.

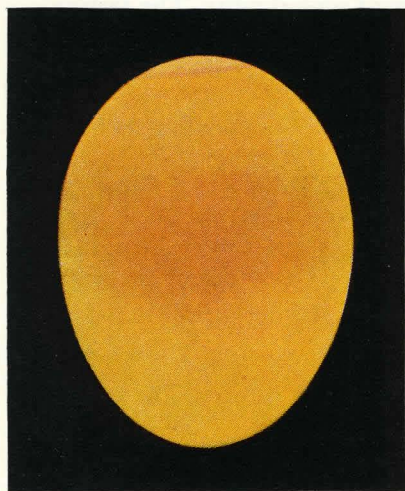
Several of the vitamins necessary in good nutrition are also present in eggs. The yolk contains vitamin A, thiamine, riboflavin, pantothenic acid, vitamins B<sub>6</sub> and B<sub>12</sub>, niacin, vitamins D and E, and small quantities of K. In the white, riboflavin and biotin are found in appreciable quantities.

The egg yields about 715 calories per pound or about 89 calories for each large egg.

Summary chart of—

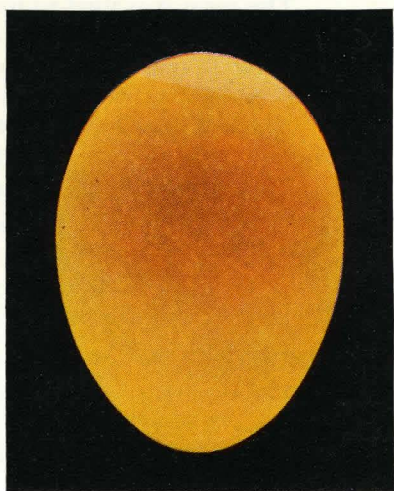
# UNITED STATES STANDARDS FOR QUALITY

Illustrations of candled appearance of white-shelled eggs showing maximum quality



**AA Quality**

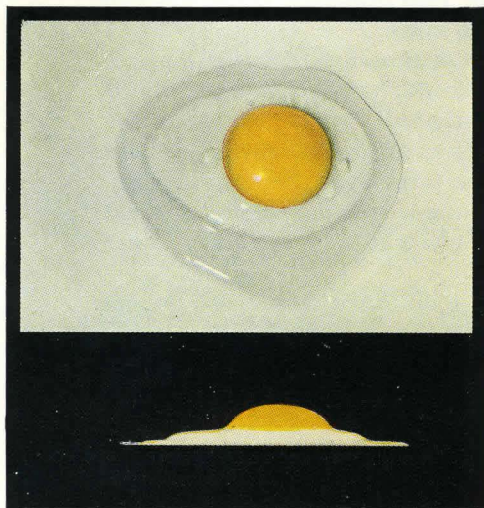
1. Shell—clean; unbroken; practically normal.
2. Air cell— $\frac{1}{8}$  inch or less in depth; practically regular.
3. White—clear; firm.
4. Yolk—well centered; outline slightly defined; free from defects.



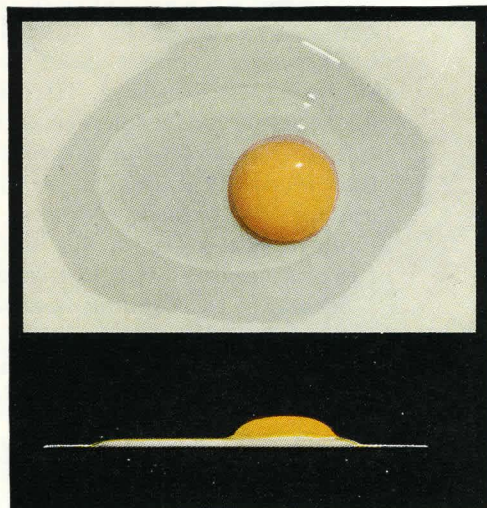
**A Quality**

1. Shell—clean; unbroken; practically normal.
2. Air cell— $\frac{2}{8}$  inch or less in depth; practically regular.
3. White—clear; may be reasonably firm.
4. Yolk—may be fairly well centered; outline fairly well defined; practically free from defects.

## Illustrations of broken-out appearance (top and side views)



**AA** Egg covers small area; much thick white surrounds yolk; has small amount of thin white; yolk round and upstanding.



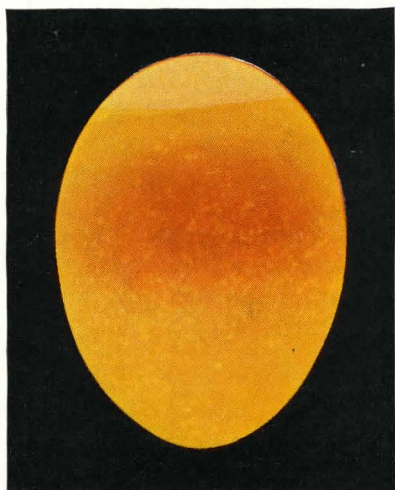
**A** Egg covers moderate area; has considerable thick white; medium amount of thin white; yolk round and upstanding.

Graders should check their work by breaking out an egg occasionally and comparing it with



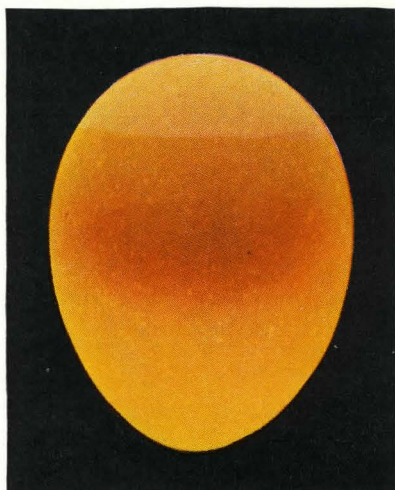
# QUALITY OF INDIVIDUAL SHELL EGGS

imum depth of air cell and outline and position of yolk in each quality



**B Quality**

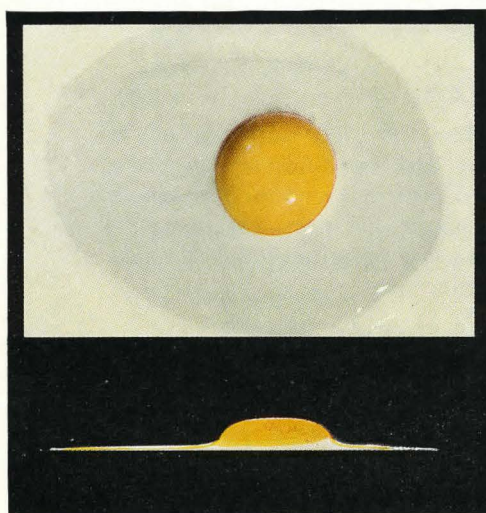
1. Shell—clean; to slightly stained; unbroken; may be slightly abnormal.
2. Air cell— $\frac{3}{8}$  inch or less in depth; may be free, but not bubbly.
3. White—clear; may be slightly weak.
4. Yolk—may be off center; outline well defined; may be slightly enlarged and flattened; may show definite but not serious defects.



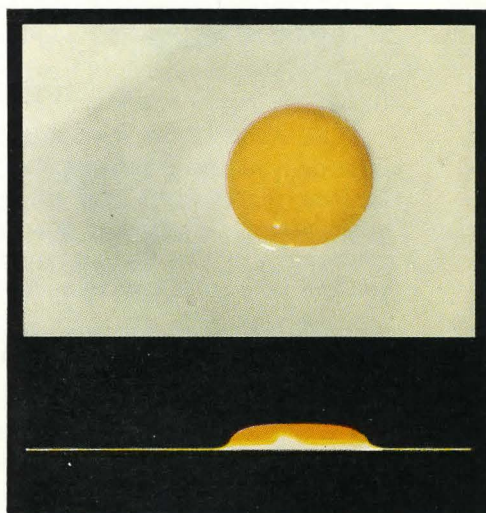
**C Quality**

1. Shell—clean; to moderately stained; unbroken; may be abnormal.
2. Air cell—may be over  $\frac{3}{8}$  inch in depth; may be free or bubbly.
3. White—may be weak and watery; small blood clots or spots may be present.
4. Yolk—may be off center; enlarged and flattened; may show clearly visible germ development but no blood; may show other serious defects; outline may be plainly visible.

nd side views) of each quality— $\frac{1}{3}$  actual size



**B** Egg covers wide area; has small amount of thick white; much thin white; yolk somewhat flattened and enlarged.



**C** Egg covers very wide area; has no thick white; large amount of thin white thinly spread; yolk very flat and enlarged.

this chart.

U. S. Department of Agriculture, Agricultural Marketing Service

## **UNDERSTAND THE LABEL**

As the grade label is your best guide to the quality of the eggs you buy, read all information on the label and on the carton.

The letters AA, A, or B describe the quality of the eggs. The designations Extra Large, Large, Medium, or Small refer to weight. Extra large eggs weigh 27 ounces per dozen; large eggs weigh 24 ounces, medium eggs weigh 21 ounces, and small eggs weigh 18 ounces per dozen.

The eggs are packed for both weight class and quality grade. When the eggs are put into cartons, the 12 eggs are of the same quality and meet at least the minimum weight for one class. Therefore, you can select cartoned eggs of the grade and size you prefer.

## **PROTECT EGG QUALITY**

To maintain quality, keep eggs in a cool, sanitary place that is not too dry. These conditions should prevail at all times, from the farm to the kitchen.

For short periods of holding, as in the retail store or the home, suitable refrigeration temperatures range from about 35° F. to 50° F., with humidity about 85 per cent.

Buy eggs from the retailer who keeps eggs in a cool, sanitary refrigerator. Eggs left for 4 days in a warm store (temperature between 70° F. and 80° F.) lose as much freshness as eggs kept for several weeks in the refrigerator in a covered container.

Your part in protecting egg quality is to buy eggs from a dealer who keeps them under refrigeration. Do not leave eggs in a hot car over long periods of time. Put them in the home refrigerator as soon as possible after purchase.

## **SHELL COLOR**

The color of the shell does not affect the food value, flavor, or interior quality of the egg, but it may make a difference in price. In some places white eggs are preferred, which boosts their price. In other places, the demand for brown eggs makes them cost more. If you remember that there is no reason to pay a premium for shell color, you can take advantage of such price differences.

## **CONSIDER GOOD BUYS**

Compare the price of the different sizes of eggs of the same grade; this is a good way to judge what value you will get for your money. There may be a wide spread between the retail price of small, medium, and large eggs with the same grade.



For example, extra large eggs may sell at 69 cents per dozen, large eggs at 63 cents per dozen, but medium eggs at only 50 cents per dozen. In this case you should buy the medium eggs for economy. Anytime that the difference in price between sizes of eggs of the same quality is more than 10 cents a dozen, buy the smaller size for economy.

At certain times of the year, medium and small eggs will be a better buy than large eggs. During the fall period when small and medium eggs are plentiful, use more of them, because they are priced so they are a very good buy.

### COOKING EGGS

Eggs may be served in hundreds of ways. They are easily and quickly prepared by cooking in the shell, frying, broiling, baking, poaching, scrambling and simple omelets.

Eggs combine well with other foods. They are useful in the preparation of beverages, breads, cakes, desserts, salads, salad dressings, sandwiches, sauces, soups; and cereal, cheese, fish, meat and vegetable dishes.

Everyone can cook eggs so that they retain their flavor, tenderness and attractiveness if a few simple rules are followed.

Cooking at moderate to low temperature is important. It will assure uniformly tender attractive eggs and egg dishes. High temperatures and overcooking toughen eggs, egg-rich cakes, souffles, and other dishes leavened with eggs will fall, the crust will be thick and tough, and the inside heavy and soggy. In dishes thickened with eggs such as custards and sauces, high temperature and overcooking cause curdling or watering.

### COOKING HINTS

Take from refrigerator only the number of eggs needed.

Remove eggs from refrigerator about 45 minutes before using. The separation of yolks from whites is quicker and better if eggs are brought to about 60° F.

Eggs beat up faster to a large volume when brought to room temperature.

In combining hot mixtures and eggs as in custards, cream fillings and souffles, pour the hot mixture slowly into the beaten egg stirring or beating constantly.

Store left-over whites in a tightly covered jar in the refrigerator. They may be held a week to 10 days.

Store left-over yolks under water in a covered jar in the refrigerator. They may be held 2 or 3 days. Or hard cook the yolks, they can be used in this form in salads, scalloped dishes and sandwiches.

Always serve egg dishes on warm plates.



## MEASURING EGGS

If you measure eggs to use in your cooking the following table will be helpful.

One large egg— $\frac{1}{4}$  cup (24 oz. per doz.)

One medium egg— $\frac{1}{5}$  cup (21 oz. per doz.)

One small egg— $\frac{1}{6}$  cup (18 oz. per doz.)

Two large eggs— $\frac{1}{2}$  cup

Two medium eggs— $\frac{3}{8}$  cup

Two small eggs— $\frac{1}{3}$  cup

Four to 6 whole eggs, 8 to 10 egg whites or 12 to 14 egg yolks are the equivalent of one standard measuring cup.

### Acknowledgments:

Poultry Department, Kansas State College, Manhattan, Kansas; P.E.N.B.; and U.S.D.A.